



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

ml

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/624,511

07/23/2003

Giuseppe Cereda

Q76191

7413

23373 7590 03/30/2007
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER

HAILE, FEBEN

ART UNIT

PAPER NUMBER

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

03/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/624,511

Applicant(s)

CEREDA ET AL.

Examiner

Feben M. Haile

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date 12/15/2003.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

2. Claim 5 objected to because of the following informalities: the punctuation marks "()" are missing a character and/or value. Appropriate correction is required.

Art Unit: 2616

3. Claim 10 objected to because of the following informalities: the phrase "preferably" is not a positive recitation and thus renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 and 6-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Sawdey et al. (US 2003/0179052), hereinafter referred to as Sawdey.

Regarding claims 1 and 6, Sawdey discloses a manifold (**figure 1 and page 2 paragraph 0015; a manifold 36**) and filter means to be connected to the manifold at proper locations (**figure 1 and page 2 paragraph 0015; bandpass filters 56, 58, and 40 connected to the manifold 36**), *characterized in that at least one of said filter means comprises a filter head connectable (either to a corresponding covering for short circuit purposes or) to a filter tail in order to provide full filter functionality (figure 1 and page 2 paragraph 0015; bandpass filter 40 interconnects the manifold 36 to a manifold 34).*

It would have been obvious to one having ordinary skill in the art at the time the invention was made that the filter 40 includes a filter head that connects to the manifold

Art Unit: 2616

36 and a filter tail that connects to the manifold 34. The motivation is to provide full filter functionality in a unitary structure of reduced size and mass to separate and combine electromagnetic signals in a satellite communication system.

Regarding claims 2 and 7, Sawdey discloses the at least one filter head comprises at least a first coupling and a first cavity (**figure 3 and page 2 paragraph 0018; each bandpass filter includes a cavity and a coupling aperture**).

Regarding claims 3 and 8, Sawdey discloses the at least one filter head further comprises a second coupling (**figure 3 and page 2 paragraph 0018; figure 3 and page 2 paragraph 0018; each bandpass filter includes a cavity and a coupling aperture**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made that since the filter 40 connects to the manifold 36 and the manifold 34 there would have to be 2 coupling apertures. The motivation is to provide full filter functionality in a unitary structure of reduced size and mass to separate and combine electromagnetic signals in a satellite communication system.

Regarding claims 4 and 9, Sawdey discloses the at least one filter head is an integral part of the manifold (**figure 1 and page 2 paragraph 0015; bandpass filter 40 interconnects the manifold 36 to the manifold 34**).

Regarding claim 10, Sawdey discloses the at least one filter head is made through standard waveguide technology, (preferably H-plane) and the corresponding at least one filter tail is made (either) by H-plane technology (or by DR technology) to

Art Unit: 2616

make the device more compact (**page 2 paragraph 0017; each manifold is constructed of a section of a waveguide of rectangular cross-section**).

As the claims are interpreted in their broadest sense, the Examiner believes that the waveguide could have been implanted using a standard technology H-Plane.

Regarding claim 11, Sawdey discloses branching unit comprising one or more reconfigurable multiplexers (**figure 1 and page 2 paragraph 0014; a satellite carries electronic equipment that includes a multiplexer with interconnectable manifolds**).

5. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Sawdey et al. (US 2003/0179052), hereinafter referred to as Sawdey, in view of Fiedziuszko et al. (US 6,472,951), hereinafter referred to as Fiedziuszko.

Regarding claim 5, Sawdey discloses the limitations of the base claim.

Sawdey fails to explicitly suggest the *full filter* (covering plate) is at a distance with respect to the manifold axis.

Fiedziuszko teaches a multiplexer assembled with waveguides, including cavity filters, coupled to a manifold (**figure 1 and column 2 lines 39-46**), where the waveguides are positioned along the longitudinal dimension of the manifold at distances *z*, *y*, and *z* (**column 2 lines 60-62**).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the manifold spacing adjustment taught by Fiedziuszko into the multiplexer disclosed by Sawdey. The motivation for such a

Art Unit: 2616

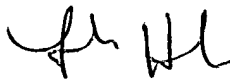
modification is to assist in the tuning of the overall system thereby optimizing performance of the multiplexer while minimizing losses.

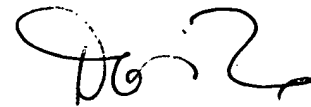
Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Feben M. Haile whose telephone number is (571) 272-3072. The examiner can normally be reached on 6:00am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


03/28/2007


DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600